

In re Patent Application of:
Ockenfuss ET AL.
Serial No. **10/004,142**
Filed: **November 14, 2001**

REMARKS

Claims 22 to 26 and 29 to 32 are currently pending. Claims 22 to 26 and 29 to 32 have been rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Accordingly, claim 22 has been amended to clarify that the "second coefficient of thermal expansion" is "smaller than" the "first coefficient of thermal expansion".

Furthermore, claims 22, 29, 30 and 32 have been rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, and 4 of United States Patent No. 6,469,847 (Fan et al). Applicant is willing to file a terminal disclaimer, but would like to point out that Fan et al does not disclose a multilayer filter free of any substrate. In fact, the multilayer filter disclosed in Fan et al is mounted on a substrate 32. Accordingly, this additional feature makes the present application patentably distinct from the Fan et al reference.

Claims 22, 29, 30 and 32 have also been rejected under 35 U.S.C. 102(e) as being anticipated by Fan et al. However, as previously stated, the Fan et al reference does not disclose a multilayer filter "free" of substrate, and therefore does not disclose all of the essential elements of the present invention.

Claims 22, 29, 30 and 32 have been rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent No. 5,212,584 (Chung). Moreover, claims 22 to 26 and 29 to 32 have been rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 5,982,488 (Shirasaki) in view of Chung. Chung discloses: "a filter 50

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is mounted onto a thermoelectric (TE) cooler 52 which is attached to a copper heat sink" Col 5, lines 17 to 19. The Chung patent does not disclose the specific material from which the TE cooler 52 is made. Accordingly, Applicant respectfully disagrees with Examiner's assessment that the TE cooler disclosed in the Chung reference could provide the thermal expansion necessary to stabilize the multilayer filter, without knowing what the TE cooler is made of, and without knowing whether the TE cooler and the copper heat sink thermally expand together or counteract each other.

Furthermore, since the TE cooler is provided to actively adjust the temperature of the filter, it stands to reason that the TE cooler would not passively stabilize the multilayer filter as in the present invention. Claim 22 has also been amended to further differentiate the present invention from the prior art. Namely, the "multiplayer thin-film filter" has been defined as released from a substrate to "eliminate stresses therebetween". The filters disclosed in Chung either include a substrate 10 or never included a substrate, since they were formed on a silicon wafer 42. The device according to the present invention combines a multiplayer thin-film filter relieved of internal stresses with a thermal compensating frame. This combination of elements is both novel and non-obvious.

Similarly, the device disclosed in Shirasaki does not include a multilayer thin-film filter having been released from a substrate to relieve internal stresses. The filter disclosed in Shirasaki is a conventional etalon including a transparent plate 201 with a reflecting film 202 on opposite sides thereof. Accordingly, a substrate has never been removed therefrom to relieve internal stresses. The invention according to the present invention lies in the combination of

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a multilayer thin-film filter, removed from its substrate to eliminate internal stresses, mounted on a frame, which provides a structural base for the filter, as well as providing the necessary thermal stabilization. None of the cited references disclose thermal stabilization of a multilayer thin-film filter removed from its original substrate. Accordingly, no reference alone or in combination with another reference discloses or even infers the combination according to the present invention.

Page 12 of the description has been amended to include reference numerals 41 to 43, thereby traversing the objection to the Drawings. Several additional amendments have been made to the description to overcome the Examiner's objections thereto.

As such, it is respectfully submitted that all of the claims remaining in the application are in condition for allowance. Early and favorable consideration would be appreciated.

Should any minor informalities need to be addressed, the Examiner is encouraged to contact the undersigned attorney at the telephone number listed below.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees, to Deposit Account No. 50-1465 and please credit any excess fees to such deposit account.

Respectfully submitted,



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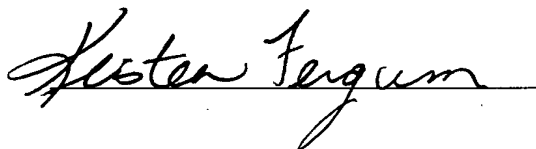
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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Non-Fee Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450, on this 10 day of September, 2003.

A handwritten signature in cursive script, reading "Kester Ferguson", is written over a horizontal line.